AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraphs appearing at page 18, line 30 – page 25, line 31 with the following paragraphs:

A first embodiment of the invention is shown in FIG. 1. An intake system ~~1~~ 301 includes an intake pipe as a tubular portion and a functional part ~~20~~ 320. Sensors such as an airflow meter or actuators such as a throttle device are applicable as the functional part.

An intake pipe (an intake duct) ~~10~~ 310 is made up of a half-hollow member ~~30~~ 330 and a half-hollow member ~~40~~ 340 which are primary molded members. The half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 are formed from a first molding resin, respectively. For example, a polyamide resin is used as the first molding resin. The half-hollow member ~~30~~ 330 and half-hollow member ~~40~~ 340 are joined together to thereby be formed into a cylindrical shape. The half-hollow member ~~30~~ 330 and half-hollow member ~~40~~ 340 are formed into substantially semi-cylindrical shapes which result when the cylindrical intake pipe ~~10~~ 310 is cut along a central axis thereof. The half-hollow member ~~30~~ 330 and half-hollow member ~~40~~ 340 have an edge portion ~~31~~ 331 and an edge portion ~~41~~ 341, respectively, which protrude radially outwardly and extend along the central axis of the intake pipe ~~10~~ 310, as shown in FIGS. 1 and 2. The half-hollow member ~~30~~ 330 and half-hollow member ~~40~~ 340 are formed into the integral intake pipe ~~10~~ 310 by being joined together at the edge portion ~~31~~ 310 and the edge portion ~~41~~ 341. An intake passageway ~~11~~ 311 through which intake air flows is formed inside the intake pipe ~~10~~ 310 which are made up of the half-hollow member ~~30~~ 330 and half-hollow member ~~40~~ 340 which are made so integral.

As shown in FIG. 3, the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 form a packing portion ~~51~~ 351. The packing portion ~~51~~ 351 is formed in the edge portions ~~31, 41~~ 331, 341 along the central axis of the intake pipe ~~10~~ 310, as shown in FIG. 2. As shown in FIG. 3, a first hole portion ~~32~~ 332 which penetrates the

edge portion ~~31~~ 331 of the half-hollow member ~~30~~ 330 is made to communicate with the packing portion ~~51~~ 351. The first hole portion ~~32~~ 332 is formed in such a manner as to extend radially outwardly of the packing portion ~~51~~ 351. The first hole portion ~~32~~ 332 provides a communication between the packing portion ~~51~~ 351 and the outside of the edge portion ~~31~~ 331.

The functional part ~~20~~ 320 has a main body ~~21~~ 321 and an arm portion ~~22~~ 322. As shown in FIGS. 1 to 3, the arm portion ~~22~~ 322 extends from the main body ~~21~~ 321 toward the central axis of the intake pipe ~~10~~ 310. The functional part ~~20~~ 320 has a second hole portion ~~23~~ 323 which penetrates the arm portion ~~22~~ 322 in a thickness direction. The inside diameter of the second hole portion ~~23~~ 323 is substantially the same as the inside diameter of the first hole portion ~~32~~ 332 formed in the edge portion ~~31~~ 331 of the half-hollow member ~~30~~ 330. The arm portion ~~22~~ 322 of the functional part ~~20~~ 320 is superimposed on the edge portion ~~31~~ 331 of the half-hollow member ~~30~~ 330 in such a manner that the second hole portion ~~23~~ 323 and the first hole portion ~~32~~ 332 are connected to each other.

As shown in FIG. 1, the half-hollow member ~~30~~ 330, the half-hollow member ~~40~~ 340 and the functional part ~~20~~ 320 are locked together by a lock-shaped portion ~~60~~ 360. The lock-shaped portion ~~60~~ 360 is formed integrally by a secondary molding resin which welds together the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 340. The lock-shaped portion ~~60~~ 360 has a trunk portion ~~61~~ 361, a first neck portion ~~62~~ 362 and a first head portion ~~63~~ 363. The trunk portion ~~61~~ 361 is formed within the packing portion ~~51~~ 351 which is formed in the central axis direction of the intake pipe ~~10~~ 310 by the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340. The first neck portion ~~62~~ 362 is formed within the first hole portion ~~32~~ 332 formed in the edge portion ~~31~~ 331 of the half-hollow member ~~30~~ 330 and the second hole portion ~~23~~ 323 formed in the arm portion of the functional part ~~20~~ 320. The first neck portion ~~62~~ 362 is formed when the secondary molding resin, which is packed into the packing portion ~~51~~ 351, overflows by way of the first hole portion ~~32~~ 332 and the second hole portion ~~23~~ 323, and extends radially outwardly of the packing portion ~~51~~

351. The first head portion ~~63~~ 363 connects to an end portion of the first neck portion ~~62~~ 362 which is situated opposite to an end portion thereof which faces the trunk portion. The outside diameter of the first head portion ~~63~~ 363 is formed larger than the outside diameter of the first neck portion ~~62~~ 362, that is, the inside diameters of the first hole portion ~~32~~ 332 and the second hole portion ~~23~~ 323, whereby the lock-shaped portion ~~60~~ 360 is formed into a rivet-like shape in which the edge portion ~~31~~ 331 of the half-hollow member ~~30~~ 330 and the arm portion ~~22~~ 322 of the functional part ~~20~~ 320 are held between the trunk portion ~~61~~ 361 and the first head portion ~~63~~ 363.

Next, a method for producing the intake system ~~10~~ 310 will be described.

The half-hollow member ~~30~~ 330 and half-hollow member ~~40~~ 340 are primarily molded from the first molding resin. As shown in FIG. 4, the half-hollow member ~~30~~ 330 and half-hollow member ~~40~~ 340 are formed into substantially semi-cylindrical shapes which are divided along the central axis of the intake pipe (intake duct) ~~10~~ 310. In the half-hollow member ~~30~~ 330 and half-hollow member ~~40~~ 340 which are so primarily molded, a raised portion ~~33~~ 333 formed at the edge portion ~~31~~ 331 is fitted in a recessed portion ~~42~~ 342 formed in the edge portion ~~41~~ 341 which corresponds to the raised portion ~~33~~ 333, whereby the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 are temporarily fixed to each other while being positioned relative to each other. The functional part ~~20~~ 320 is placed on the edge portion ~~31~~ 331 of the half-hollow member ~~30~~ 330 which is temporarily fixed. The functional part ~~20~~ 320 is placed in such a manner that the second hole portion ~~23~~ 323 formed in the arm portion ~~22~~ 322 overlaps the first hole portion ~~32~~ 332 formed in the edge portion ~~31~~ 331 of the half-hollow member ~~30~~ 330.

When the functional part ~~20~~ 320 is so placed, the arm portion ~~22~~ 322 of the functional part ~~20~~ 320, the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 are put between a fixture ~~71~~ 371 and a fixture ~~72~~ 372, whereby the half-hollow member ~~30~~ 330, the half-hollow member ~~40~~ 340 and the functional part ~~20~~ 320 are held by the fixture ~~71~~ 371 and the fixture ~~72~~ 372. A recessed portion ~~73~~ 373 is formed in an end portion of the fixture ~~71~~ 371 which faces the half-hollow member ~~30~~ 330.

The recessed portion ~~73~~ 373 corresponds to the shape of the first head portion ~~63~~ 363 of the lock-shaped portion ~~60~~ 360.

When the half-hollow member ~~30~~ 330, the half-hollow member ~~40~~ 340 and the functional part ~~20~~ 320 are held by the fixture ~~71~~ 371 and the fixture ~~72~~ 372, a secondary molding resin is packed. The secondary molding resin is formed from a polyamide resin as in the case with the first molding resin. The secondary molding resin is packed into the packing portion ~~51~~ 351 along the central axis of the intake pipe ~~10~~ 310 in a molten state or a state in which the resin has a fluidity. Inner walls of the edge portion ~~31~~ 331 and the edge portion ~~41~~ 341 which form the packing portion ~~51~~ 351 are molten when the secondary molding resin is packed into the packing portion ~~51~~ 351. For example, by using as the secondary molding resin a resin having a melting point which is higher than that of the first molding resin, the inner walls of the edge portion ~~31~~ 331 and the edge portion ~~41~~ 341 which form the packing portion ~~51~~ 351 are molten easily. The inner walls of the edge portion ~~31~~ 331 and the edge portion ~~41~~ 341 which are so molten mix with the secondary molding resin at a contact portion, and the inner walls are welded together as the secondary molding resin is cooled.

As air exists in the packing portion ~~51~~ 351, the air inside the packing portion ~~51~~ 351 must be discharged in packing the secondary molding resin into the packing portion ~~51~~ 351. Namely, part of the secondary molding resin needs to be caused to overflow to the outside of the packing portion ~~51~~ 351 together with the air. In the case of the first embodiment, the air present in the packing portion ~~51~~ 351 is discharged to the fixture ~~71~~ 371 side by way of the first hole portion ~~32~~ 332 communicating with the packing portion ~~51~~ 351 and the second hole portion ~~23~~ 323. Due to this, part of the secondary molding resin packed into the packing portion ~~51~~ 351 overflows, as shown in FIG. 5, and flows as far as the recessed portion ~~73~~ 373 in the fixture ~~71~~ 371 by way of the first hole portion ~~32~~ 332 and the second hole portion ~~23~~ 323. The air discharged from the packing portion ~~51~~ 351 is discharged to the outside by way of, for example, a boundary between the arm portion ~~22~~ 322 and the fixture ~~71~~ 371 or a venting means such as a hole formed in the fixture ~~71~~ 371.

When the packing of the secondary molding resin has been completed, the secondary molding resin is allowed to set. By allowing the secondary molding resin to set, the inner walls of the edge portion ~~31~~ 331 and the edge portion ~~41~~ 341 which are molten and the trunk portion ~~61~~ 361 of the lock-shaped portion ~~60~~ 360, which is formed from the secondary molding resin, are welded together, whereby the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 are joined together. In addition, when the secondary molding resin sets, a lock-shaped portion ~~60~~ 360 is formed which has a configuration corresponding to the packing portion ~~51~~ 351, the first hole portion ~~32~~ 330, the second hole portion ~~23~~ 323 and the recessed portion ~~73~~ 373. The trunk portion ~~61~~ 361 of the lock-shaped portion ~~60~~ 360 welds together the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340, whereby the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 are joined together. The first neck portion ~~62~~ 362 welds with the inner wall of the edge portion ~~31~~ 331 which forms the first hole portion ~~32~~ 332. Note that in the event that the arm portion ~~22~~ 322 of the functional part ~~20~~ 320 is formed from a resin having a melting point which is lower than that of the secondary molding resin, the first neck portion ~~62~~ 362 welds with an inner wall of the arm portion ~~22~~ 322 which forms the second hole portion ~~23~~ 323. The secondary resin molding overflowing as far as the recessed portion ~~73~~ 373 in the fixture ~~71~~ 371 by way of the first hole portion ~~32~~ 332 and the second hole portion ~~23~~ 323 forms the first head portion ~~63~~ 363 of the lock-shaped portion ~~60~~ 360, whereby the arm portion ~~22~~ 322 of the functional part ~~20~~ 320 is put between the trunk portion ~~61~~ 361 and the first head portion ~~63~~ 363 of the lock-shaped portion ~~60~~ 360 together with the edge portion ~~31~~ 331 of the half-hollow member ~~30~~ 330.

Thus, in the first embodiment that has been described heretofore, in joining together the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 which make up the intake pipe ~~10~~ 310, the secondary molding resin that is to be packed into the packing portion ~~51~~ 351 is allowed to overflow by way of not only the first hole portion ~~32~~ 332 in the half-hollow member ~~30~~ 330 but also the second hole portion ~~23~~ 323 in the functional part ~~20~~ 320, whereby not only the half-hollow member ~~30~~ 330 and

the half-hollow member ~~40~~ 340 are welded together by the secondary molding resin but also the functional part ~~20~~ 320 is fixed to the intake pipe ~~10~~ 310 by the lock-shaped portion ~~60~~ 360 which is formed from the secondary molding resin. Originally, in a case where a primary molded member such as the intake pipe ~~10~~ 310 is welded by a secondary molding resin, a hole is needed for allowing the secondary molding resin to overflow. In addition, a plurality of functional parts ~~20~~ 320 must be provided on the intake pipe ~~10~~ 310. Then, in this first embodiment, the second hole portion ~~23~~ 323 of the functional part ~~20~~ 320 is connected to the first hole portion ~~32~~ 332 adapted for allowing the secondary molding resin to overflow from the packing portion ~~51~~ 351, and the first head portion ~~63~~ 363 having the outside diameter which is larger than the inside diameter of the second hole portion ~~23~~ 323 is formed on the side of the second hole portion ~~23~~ 323 which is opposite to the side thereof which faces the first hole portion ~~32~~ 332, whereby the functional part ~~20~~ 320 is attached to the intake pipe ~~10~~ 310 at the same time that the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 are joined together. Due to this, the formation of the intake pipe ~~10~~ 310 and the attachment of the functional part ~~20~~ 320 do not have to be implemented in different processes. Consequently, the number of processes can be decreased.

In the first embodiment, as the functional part ~~20~~ 320 is attached to the intake pipe ~~10~~ 310 by the lock-shaped portion ~~60~~ 360 formed by the secondary molding resin, a fastening member such as a tapping screw or a bolt is not required. The lock-shaped portion ~~60~~ 360 is welded to the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 at the trunk portion ~~61~~ 361 and to the half-hollow member ~~30~~ 330 at the first neck portion ~~62~~ 362. Namely, the functional part ~~20~~ 320 is attached to the intake pipe ~~10~~ 310 by virtue of a welding force acting between the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 and the lock-shaped portion ~~60~~ 360. Due to this, being different from a case where a fastening member such as a tapping screw or a bolt is used, the occurrence of loosening of such a fastening member, by the vibration of the intake pipe ~~10~~ 310, is prevented. In addition, as the functional part ~~20~~ 320 is attached to the intake pipe ~~10~~ 310 by the lock-shaped portion ~~60~~ 360, even if the

number of functional parts ~~20~~ 320 to be attached is increased, hole portions corresponding to the first hole portion ~~32~~ 332 and the second hole portion ~~23~~ 323 only have to be formed. Due to this, being different from the case where the fastening member is used, even if the number of functional parts ~~20~~ 320 is increased, there is no case where the number of components is increased.

In the first embodiment, the lock-shaped portion ~~60~~ 360 is formed such that the outside diameter of the first neck portion ~~62~~ 362 is smaller than the outside diameters of the trunk portion ~~61~~ 361 and the first head portion ~~63~~ 363. By decreasing the outside diameter of the first neck portion ~~62~~ 362, a contact area between the trunk portion ~~61~~ 361 and the inner walls of the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 is enlarged. Due to this, a welding area between the trunk portion ~~61~~ 361 and the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 is enlarged. Consequently, the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 can be joined together strongly. In addition, by making the outside diameter of the first neck portion ~~62~~ 362 smaller than the outside diameter of the first head portion ~~63~~ 363, the dislocation of the functional part ~~20~~ 320 is prevented at the first head portion ~~63~~ 363. Consequently, the functional part ~~20~~ 320 can be attached to the intake pipe ~~10~~ 310 strongly.

Please replace the paragraphs appearing at page 26, line 1 – page 27, line 11 with the following paragraphs:

In the case of the second embodiment, as shown in FIG. 6, a lock-shaped portion ~~80~~ 380 has a second neck portion ~~84~~ 384 and a second head portion ~~85~~ 385 in addition to a first neck portion ~~82~~ 382 extending from a trunk portion ~~81~~ 381 and a first head portion ~~83~~ 383. Namely, the lock-shaped portion ~~80~~ 380 has the second neck portion ~~84~~ 384 and the second head portion ~~85~~ 385 which are formed from the trunk portion ~~81~~ 381 in a different direction from a direction in which the first neck portion ~~82~~ 382 and the first head portion ~~83~~ 383 are formed. In the second embodiment, the first neck portion ~~82~~ 382 and the second neck portion ~~84~~ 384 generally form an angle of

180° therebetween. In addition, a third hole portion ~~43~~ 343 corresponding to the second neck portion ~~84~~ 384 is formed in a half-hollow member ~~40~~ 340.

A secondary molding resin that is packed into a packing portion ~~51~~ 351 overflows from the packing portion ~~51~~ 351 to not only a first neck portion ~~82~~ 382 side but also a second neck portion ~~84~~ 384 side, whereby not only the half-hollow member ~~30~~ 330 and the half-hollow member ~~40~~ 340 are joined together by the secondary molding resin in the packing portion ~~51~~ 351 but also the half-hollow member ~~30~~ 330, the half-hollow member ~~40~~ 340 and a functional part ~~20~~ 320 are held by the first head portion ~~83~~ 383 and the second head portion ~~85~~ 385 of the lock-shaped portion ~~80~~ 380.

In the second embodiment, the half-hollow member ~~30~~ 330, the half-hollow member ~~40~~ 340 and the functional part ~~20~~ 320 can be fixed together more strongly by forming the second neck portion ~~84~~ 384 in the different direction from the direction in which the first neck portion ~~82~~ 382 is formed.

In the second embodiment, while an example where the lock-shaped portion ~~80~~ 380 is formed such that the first neck portion ~~82~~ 382 and the second neck portion ~~84~~ 384 forms generally the angle of 180° therebetween is shown, the lock-shaped portion ~~80~~ 380 may be formed such that the first neck portion ~~82~~ 382 and the second neck portion ~~84~~ 384 forms generally an angle of 90° therebetween, as shown in FIG. 7. Note that the first neck portion ~~82~~ 382 and the second neck portion ~~84~~ 384 may be formed at any angle other than 90° and 180°, whereby the second neck portion ~~84~~ 384 can be formed at an appropriate position in consideration of the shapes and positions of an intake pipe ~~10~~ 310 and the functional part ~~20~~ 320.

In addition, in the second embodiment, the second neck portion ~~84~~ 384 is formed on an extension of the first neck portion ~~82~~ 382. However, the first neck portion ~~82~~ 382 may be formed in such a manner as to deviate from the second neck portion ~~84~~ 384 in a centrally axial direction of the intake pipe (the intake duct) ~~10~~ 310.

Please replace the paragraphs appearing at page 27, lines 18 -33 with the following paragraphs:

In the case of the third embodiment, as shown in FIG. 8, a first head portion ~~93~~ 393 of a lock-shaped portion ~~90~~ 390 is formed in such a manner as to extend in a direction of central axis of an intake pipe (an intake duct) ~~10~~ 310. A first neck portion ~~92~~ 392 extends in a direction along the central axis of the induction pipe ~~10~~ 310 according to the shape of the first head portion ~~93~~ 393. In addition, as shown in FIG. 9, a plurality of first neck portions ~~94~~ 394 may be formed in the direction of central axis of the intake pipe ~~10~~ 310 so that a trunk portion ~~91~~ 391 and the first head portion ~~93~~ 393 are connected to each other at a plurality of positions.

In the third embodiment, as the first head portion ~~93~~ 393 of the lock-shaped portion ~~90~~ 390 is expanded, a functional part ~~20~~ 320 can be fixed to the intake pipe ~~10~~ 310 more strongly.

Please replace the paragraphs appearing at page 28, lines 3-31 with the following paragraphs:

In the case of the fourth embodiment, as shown in FIG. 10, an arm portion ~~22~~ 322 of a functional part ~~20~~ 320 has an expanded hole portion ~~24~~ 324 in addition to a second hole portion ~~23~~ 323. The second hole portion ~~23~~ 323 is formed as far as an intermediate position along the length of a thickness direction of the arm portion ~~22~~ 322, and the expanded hole portion ~~24~~ 324 is connected to an end portion of the second hole portion ~~23~~ 323 at an end of the second hole portion ~~23~~ 323 which is opposite to an end thereof which faces a first hole portion. Namely, the hole portions formed in the arm portion ~~22~~ 322 are stepped, whereby a first neck portion ~~62~~ 362 of a lock-shaped portion ~~60~~ 360 is formed at a position corresponding to the first hole portion ~~32~~ 332 in a half-hollow member ~~30~~ 330 and the second hole portion ~~23~~ 323 in a functional part ~~20~~ 320, and a first head portion ~~63~~ 363 of the lock-shaped portion ~~60~~ 360 is formed at a position corresponding to the expanded hole portion ~~24~~ 324.

In the fourth embodiment, the first head portion ~~63~~ 363 of the lock-shaped portion ~~60~~ 360 is embedded in the arm portion ~~22~~322 of the functional part ~~20~~ 320 and hence does not protrude to the outside of the arm portion ~~22~~322. In addition, a

contact area between an inner wall of the arm portion ~~22~~322 and a secondary molding resin that is packed into the expanded hole portion ~~24~~ 324, is expanded. Due to this, in a case where the arm portion ~~22~~322 is formed from a resin which can be welded to the secondary molding resin, a welding area is expanded. Consequently, the arm portion ~~22~~322 and the lock-shaped portion ~~60~~ 360 can be welded together assuredly and strongly.

Please replace the paragraphs appearing at page 29, line 8 – page 35, line 28 with the following paragraphs:

An intake system according to a fifth embodiment is shown in FIG. 11. An intake system ~~1~~ 201 includes an intake duct (an intake pipe) ~~10~~ 210 and a casing ~~20~~ 220 which cooperates with the intake duct ~~10~~ 210 to form a resonator. The intake duct ~~10~~ 210 is formed into a cylindrical shape which forms an intake passageway ~~11~~ 211. As an example, the intake duct ~~10~~ 210 connects to an air cleaner, not shown, at one end portion thereof and to a throttle, not shown, at the other end portion. Intake air that has passed through the air cleaner flows to the throttle by way of the intake passageway ~~11~~ 211. A flow rate of intake air is adjusted at the throttle. The intake air whose flow rate has been so adjusted is then supplied to each cylinder of an engine by way of an intake manifold, not shown.

The intake duct ~~10~~ 210 is formed into a cylindrical shape and from resin. As shown in FIGS. 12 and ~~13~~ 213, the intake duct ~~10~~ 210 has a cylindrical circumferential wall and a generally circular opening ~~12~~ 212. The opening ~~12~~ 212 extends through the circumferential wall of the intake duct ~~10~~ 210 so as to provide a communication between the intake passageway ~~11~~ 211 and the outside of the intake duct ~~10~~ 210.

As shown in FIG. 11, the casing ~~20~~ 220 is formed into a cylindrical shape and made from resin and is provided radially outwardly of the intake duct ~~10~~ 210. The casing ~~20~~ 220 is attached at a position where the casing ~~20~~ 220 covers the opening ~~12~~ 212 in the intake duct ~~10~~ 210, whereby a resonator is formed between the intake duct ~~10~~ 210 and the casing ~~20~~ 220. As shown in FIG. 13, the casing ~~20~~ 220 is divided into

two by a plane containing a central axis of the intake duct ~~10~~ 210, whereby the casing ~~20~~ 220 has two piece portions such as a piece portion ~~30~~ 230 and a piece portion ~~50~~ 250 which are formed into substantially the same shape. As the casing is formed into the cylindrical shape, the two piece portions ~~30~~ 230 and ~~50~~ 250 are each formed into a semi-cylindrical shape.

As shown in FIG. 11, by joining together the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, the cylindrical casing ~~20~~ 220 is formed which has in a central portion thereof a hole portion ~~21~~ 221 which penetrates therethrough in an axial direction thereof. By joining together the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 in such a manner as to hold therebetween the intake duct ~~10~~ 210 from the outside in the radial direction of the intake duct ~~10~~ 210 as shown in FIG. 13, a state is realized in which the intake duct ~~10~~ 210 is passed through the hole portion ~~21~~ 221 as shown in FIG. 11.

As shown in FIG. 13, the piece portion ~~30~~ 230 has, at an end portion on a side thereof which faces the piece portion ~~50~~ 250, a flange portion ~~31~~ 231 which protrudes outwardly along the end portion. Similarly, the piece portion ~~50~~ 250 has, at an end portion on a side thereof which faces the piece portion ~~30~~ 230, a flange portion ~~51~~ 251 which protrudes outwardly along the end portion. Thus, when the casing ~~20~~ 220 including the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 is attached to the intake duct ~~10~~ 210, the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, and the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210 are brought into contact with each other at the flange portions ~~31, 51~~ 231, 251, respectively.

As shown in FIGS. 14 and 15, a recessed groove ~~32~~ 232 which is set back in the thickness direction is formed in the flange portion ~~31~~ 231 of the piece portion ~~30~~ 230. The recessed groove ~~32~~ 232 is formed along the flange portion ~~31~~ 231 as shown in FIG. 12. Similarly, a recessed groove ~~52~~ 252 is formed in the flange portion ~~51~~ 251 of the piece portion ~~50~~ 250. The recessed grooves ~~32, 52~~ 232, 252 which are formed in the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, respectively, are formed in such a

manner as to extend circumferentially to the intake duct ~~10~~ 210 at both axial end portions of the casing ~~20~~ 220 and to extend along the shapes of the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, as shown in FIGS. 12 and 16.

By forming the recessed grooves ~~32, 52~~ 232, 252 in the flange portions ~~31, 51~~ 231, 251, respectively, when the casing ~~20~~ 220 is attached to the intake duct ~~10~~ 210, a space portion ~~22~~ 322 is formed between the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 and between the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210 as shown in FIG. 16. The space portion ~~22~~ 322 includes a first space portion 221, which is formed in such a manner as to extend continuously in the circumferential direction of the intake duct ~~10~~ 210, and a second space portion ~~222~~ 225 which is formed in such a manner as to extend along the contours of the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 as in the case with the recessed grooves ~~32, 52~~ 232, 252. As shown in FIG. 12, the first space portion 221 and the second space portion ~~222~~ 225 communicate with each other at four intersecting portions ~~23~~ 223. Consequently, the first space portion 221 and the second space portion ~~222~~ 225 forms the single communicating space portion ~~22~~ 222.

As shown in FIGS. 17 and 18, a secondary molding resin is packed into the space portion ~~22~~ 222 which is formed between the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 and between the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210, whereby a joint ~~23~~ 260 is formed. The joint ~~23~~ 260 is formed from the secondary molding resin which is formed from a resin made from the same material as that of the casing ~~20~~ 220 constituted by the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, and that of the intake duct ~~10~~ 210. The intake duct ~~10~~ 210 and the casing ~~20~~ 220 which form the space portion ~~22~~ 222 are molten when the secondary molding resin in a molten state is packed into the space portion ~~22~~ 222 so as to be welded to the secondary molding resin which forms the joint ~~23~~ 260. As a result, the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, and the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210 are joined together by the joint ~~23~~ 260.

As shown in FIG. 11, an injection port ~~24~~ 224 communicating with the space portion ~~22~~ 222 is formed in the casing ~~20~~ 220. The injection port ~~24~~ 224 is formed in the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 at a single or a plurality of positions. In the case of this embodiment, the injection port ~~24~~ 224 is formed in the piece portion ~~30~~ 230 at a single position, whereby, when a resin is injected into the injection port ~~24~~ 224, the resin so injected is then packed into the first space portion 221 and the second space portion ~~22~~ 225.

In the case of the fifth embodiment, as a resin packed from the injection port ~~24~~ 224, a resin having the same material as the resin forming the intake duct ~~10~~ 210 and the casing ~~20~~ 220 is used. The resin is heated to a state in which the resin is molten as the secondary molding resin or to a temperature which is equal to or higher than a melting point thereof and is then injected from the injection port ~~24~~ 224 in a state in which it is having the fluidity. Thus, the resin injected from the injection port ~~24~~ 224 is then packed into the space portion ~~22~~ 222 while melting wall surfaces of the intake duct ~~10~~ 210 and the casing ~~20~~ 220 which form the space portion ~~22~~ 222. The molten wall surfaces of the intake duct ~~10~~ 210 and the casing ~~20~~ 220 are welded with the secondary molding resin so as to make a complex joint. Then, when the secondary molding resin is cooled and sets, the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, and the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and intake duct ~~10~~ 210 are joined together strongly via the secondary molding resin at the joint ~~23~~ 260 strongly. In addition, the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, and the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and intake duct ~~10~~ 210 are tightly sealed by the joint ~~23~~ 261. The secondary molding resin packed into the first space portion 221 forms a first joint ~~231~~ 261 which extends continuously in the circumferential direction of the intake duct ~~10~~ 210. In addition, the secondary molding resin packed into the second space portion ~~22~~ 225 forms a second joint ~~32~~ 262 along the contours of the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250.

As shown in FIG. 11, as the casing ~~20~~ 220 is divided into the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, the intake duct ~~10~~ 210 is put between the piece

portion ~~30~~ 230 and the piece portion ~~50~~ 250 from the outside in the radial direction to be attached in place. The piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 are made smaller in size by dividing the casing ~~20~~ 220. Due to this, even in the event that there is no extra space around the intake duct ~~10~~ 210, the casing ~~20~~ 220 including the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 which are divided separately can be attached to the intake duct ~~10~~ 210 easily. In addition, even in the event that the intake duct ~~10~~ 210 is formed into a winding shape, the casing ~~20~~ 220 can be attached to a desired position on the intake duct ~~10~~ 210 by putting the intake duct ~~10~~ 210 in the casing ~~20~~ 220 so divided. The piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 are attached to the intake duct ~~10~~ 210 and are then temporarily fixed thereto, and the secondary molding resin is then packed into the space portion ~~22~~ 222 from the injection port ~~24~~ 224, whereby the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, and the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210 are welded together.

In the fifth embodiment, the casing ~~20~~ 220 is divided into the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250. The casing ~~20~~ 220 is attached to the intake duct ~~10~~ 210 by putting the intake duct ~~10~~ 210 between the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 which are so divided. Due to this, the casing ~~20~~ 220 can easily be attached to the intake duct ~~10~~ 210 despite the configuration of the intake duct ~~10~~ 210 and the configuration and size of the space formed around the periphery of the intake duct ~~10~~ 210. Consequently, the degree of freedom in designing the intake system ~~1~~ 201 can be increased.

In addition, in the fifth embodiment, the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 which constitute the casing ~~20~~ 220, and the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210 are welded together by the secondary molding resin at the joint ~~23~~ 223. Due to this, the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, and the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210 are sealed assuredly by the joint ~~23~~ 223, whereby no other member for fixing the casing ~~20~~ 220 to the intake duct ~~10~~ 210 is required. Consequently, the

number of components and a space required for placing the casing ~~20~~ 220 can be reduced.

In the fifth embodiment, the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, and the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210 are assuredly sealed by the joint ~~23~~ 260 and are strongly fixed together by the joint ~~23~~ 260. Due to this, the leakage of intake air from between the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 and between the piece portion ~~30~~ 230 or the piece portion ~~50~~ 250 and the intake duct ~~10~~ 210 is prevented. Consequently, noise generated by the flowing intake air can be reduced.

In the fifth embodiment, the attachment of the casing ~~20~~ 220 to the intake duct ~~10~~ 210 is completed according to a procedure in which the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 are attached to the intake duct ~~10~~ 210, and then the secondary molding resin is packed into the joint ~~23~~ 260. Consequently, the number of processes for assembling can be reduced.

(Sixth Embodiment)

A casing for an intake system according to a sixth embodiment of the invention is shown in FIG. 19. Note that like reference numerals are given to substantially like constituent locations to those described in the ~~first~~ fifth embodiment, and the description thereof is omitted.

In the case of the sixth embodiment, as shown in FIG. 19, a piece portion ~~30~~ 230 and a piece portion ~~50~~ 250 which constitute a casing ~~20~~ 220 are connected to each other by a hinge portion 25. The hinge portion ~~25~~ 225 is formed from a resin having the same material as that of the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250. As the hinge portion 25 is formed thinner than the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, the hinge portion 25 is flexible and can be bent or folded freely. In the case of this embodiment, when the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 are folded from the hinge portion 25, an end portion ~~30~~ 230a of the piece portion ~~30~~ 230, which is opposite to an end portion thereof which faces the hinge portion ~~25~~ 225, and an end portion ~~50~~ 250a of the piece portion ~~50~~ 250, which is opposite to an end

portion thereof which faces the hinge portion 25, are made to face each other, whereby the cylindrical casing ~~20~~ 220 is formed. Namely, while the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 are being folded from the hinge portion 25, an intake duct ~~10~~ 210 is put between the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, whereby the casing ~~20~~ 220 is attached to the intake duct ~~10~~ 210 as shown in FIG. 11.

In the sixth embodiment, the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 are formed integrally by the hinge portion ~~25~~ 225. Due to this, even if the casing ~~20~~ 220 is divided into the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250, an increase in number of components is not called for. In addition, when assembling the casing ~~20~~ 220, the dislocation of one of the piece portions from the other piece portion is prevented, the assembling of the casing ~~20~~ 220 can be facilitated.

Please replace the paragraphs appearing at page 35, line 36 – page 39, line 4 with the following paragraphs:

In the case of the seventh embodiment, as shown in FIG. 20A, a protruding portion which protrudes radially outwardly is formed on an intake duct ~~10~~ 210. The protruding portion 13 is formed continuously or discontinuously in a circumferential direction of the intake duct ~~10~~ 210. The height of the protruding portion ~~13~~ 213, that is, an amount by which the protruding portion 13 protrudes from the intake duct ~~10~~ 210 is set smaller than the depth of a recessed groove ~~32~~ 232 formed in the piece portion ~~30~~ 230 or a recessed groove ~~52~~ 252 formed in the piece portion ~~50~~ 250. Due to this, a predetermined space portion ~~22~~ 222 is formed between the protruding portion 13 on the intake duct ~~10~~ 210 and the recessed groove ~~32~~ 232 in the piece portion ~~30~~ 230 or the recessed groove ~~52~~ 252 in the piece portion ~~50~~ 250. A secondary molding resin injected from an injection port ~~24~~ 224 is packed into the space portion ~~22~~ 222 formed between the protruding portion 13 and the recessed groove ~~32~~ 232 or the recessed groove ~~52~~ 252, whereby as shown in FIG. 20B, a joint ~~23~~ 260 is formed between the intake duct ~~10~~ 210 and the piece portion ~~30~~ 230 constituting the casing ~~20~~ 220.

In the case of the seventh embodiment, by forming the protruding portion 13 on the intake duct ~~10~~ 210, the recessed groove ~~32~~ 232 in the piece portion ~~30~~ 230 or the recessed groove ~~52~~ 252 in the piece portion ~~50~~ 250 is fitted on the protruding portion 13. Due to this, the attachment position of the casing ~~20~~ 220 constituted by the piece portion ~~30~~ 230 and the piece portion ~~50~~ 250 is positioned by the protruding portion 13. In other words, the protruding portion 13 constitutes a positioning means for positioning the casing ~~20~~ 220 to the intake duct ~~10~~ 210. Consequently, the casing ~~20~~ 220 can easily be positioned at a predetermined position on the intake duct ~~10~~ 210. In addition, the protruding portion 13 is formed integrally with the intake duct ~~10~~ 210 from a resin having the same material as that from which the intake duct ~~10~~ 210 is formed. Due to this, the protruding portion 13 can be molded at the same time as the intake duct ~~10~~ 210 is formed. Consequently, there exists no case where an increase in number of processes is called for.

In the case of the eighth embodiment, as shown in FIG. 21A, the configuration of a joint portion between a piece portion ~~30~~ 230 and an intake duct ~~10~~ 210 is different from that of the fifth embodiment. A groove portion 14 which sets back radially inwardly is formed in the intake duct ~~10~~ 210. The groove portion 14 is formed in such a manner as to extend continuously in a circumferential direction of the intake duct ~~10~~ 210.

On the other hand, a projection 33 is formed on a piece portion ~~30~~ 230 which projects from a flange portion ~~31~~ 231 radially inwardly of the intake duct ~~10~~ 210. The projection 33 is formed continuously or discontinuously in a circumferential direction of the piece portion ~~30~~ 230. According to the construction, the projection 33 projecting from the piece portion ~~30~~ 230 is inserted into the groove portion 14 in the induction duct ~~10~~ 210. The projection 33 is set smaller than the groove portion 14. Due to this, a predetermined space portion 26 is formed between the projection 33 and the groove portion 14. A secondary molding resin injected from an injection port 24 is packed into the space portion 26 formed between the projection 33 and the groove portion 14, whereby, as shown in FIG. 21B, a joint 27 is formed between the intake duct ~~10~~ 210

and the piece portion ~~30~~ 230 constituting a casing ~~20~~ 220. Note that a piece portion ~~50~~ 250 can be configured similarly to the piece portion ~~30~~ 230.

In the case of the eighth embodiment, by forming the groove portion 14 in the intake duct ~~10~~ 210 and the projection 33 on the piece portion ~~30~~ 230, the projection 33 is fitted in the groove portion 14. Due to this, the attachment position of the piece portion ~~30~~ 230 is positioned by the projection 33. Namely, the groove 14 constitutes a positioning means for positioning the casing ~~20~~ 220 to the intake duct ~~10~~ 210. Consequently, the casing ~~20~~ 220 can easily be attached to a predetermined position on the intake duct ~~10~~ 210. In addition, the groove portion 14 is formed integrally with the intake duct ~~10~~ 210 from a resin having the same material from which the intake duct ~~10~~ 210 is formed. Due to this, the groove portion 14 can be molded at the same time as the formation of the intake duct ~~10~~ 210. Consequently, there exists no case where an increase in number of processes is called for.

In the case of the ninth embodiment, as shown in FIG. 22A, the configuration of a joint portion between a piece portion ~~30~~ 230 and an intake duct ~~10~~ 210 is different from that of the fifth embodiment. A protruding portion ~~15~~ 215 rising radially outwardly is formed on the intake duct ~~10~~ 210. The protruding portion ~~15~~ 215 is formed continuously in a circumferential direction of the intake duct ~~10~~ 210. The protruding portion ~~15~~ 215 has a main body portion ~~151~~ 251 rising from the intake duct ~~10~~ 210 and a head portion ~~152~~ 252 extending from an end portion of the main body portion ~~151~~ 251 which is opposite to an end portion thereof which faces an intake passageway in substantially parallel with a central axis of the intake duct ~~10~~ 210.

On the other hand, a recessed groove ~~34~~ 234 which is set back in part of a flange portion ~~31~~ 231 is formed in the piece portion ~~30~~ 230. The recessed groove 34 is formed continuously or discontinuously in a circumferential direction of the piece portion ~~30~~ 230. The flange portion ~~31~~ 231 can be brought into abutment with the head portion ~~152~~ 252 of the protruding portion ~~15~~ 215 at an axial end portion of the piece portion ~~30~~ 230. Due to this, a predetermined space portion 28 is formed between the protruding portion ~~15~~ 215 and the flange portion ~~31~~ 231 by bringing the head portion

~~152~~ 252 of the protruding portion 15 into abutment with the flange portion ~~31~~ 231 of the piece portion ~~30~~ 230. The space portion ~~28~~ 228 is formed circumferentially of the intake duct ~~10~~ 210. Due to this, a secondary molding resin injected from an injection port ~~24~~ 224 is packed into the space portion ~~28~~ 228 formed between the protruding portion 15 and the flange portion ~~31~~ 231, whereby, as shown in FIG. 22B, a joint ~~29~~ 229 is formed between the intake duct ~~10~~ 210 and the piece portion ~~30~~ 230 constituting a casing ~~20~~ 220. Note that a piece portion ~~50~~ 250 can be configured similarly to the piece portion ~~30~~ 230 described above.

In the case of the ninth embodiment, by forming the protruding portion ~~15~~ 215 on the intake duct ~~10~~ 210 and the recessed groove ~~32~~ 232 in the flange portion ~~31~~ 231 of the piece portion ~~30~~ 230, the protruding portion ~~15~~ 215 and the flange portion ~~31~~ 231 are brought into abutment with each other. Due to this, the attachment position of the piece portion ~~30~~ 230 is positioned by the abutment between the protruding portion ~~15~~ 215 and the flange portion ~~31~~ 231. In other words, the protruding portion 15 constitutes a positioning means for positioning the casing ~~20~~ 220 to the intake duct ~~10~~ 210. Consequently, the casing can easily be attached to a predetermined position on the intake duct ~~10~~ 210.